

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/008516

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01L29/739

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 452 228 B1 (HARA KUNIHICO ET AL) 17 September 2002 (2002-09-17) column 16, line 40 - column 17, line 54; figures 19,20	1,2
X	US 5 866 931 A (ROSSEN REBECCA ET AL) 2 February 1999 (1999-02-02) column 6, line 16 - line 40; figure 6	1,2
X	US 5 753 942 A (SEOK KYUNG-WOOK) 19 May 1998 (1998-05-19) column 5, line 4 - line 27; figures 5a,5b	1,2
X	EP 1 093 168 A (SHINDENGEN ELECTRIC MFG COMPAN) 18 April 2001 (2001-04-18) paragraphs '0116! - '0120!, '0134!, '0135!; figures 25a,25b,31,32a,32b	3,4
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

2 December 2004

Date of mailing of the international search report

13. 12. 2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 271 562 B1 (GRAF HEIMO ET AL) 7 August 2001 (2001-08-07) column 6, line 41 - column 9, line 2; figure 1 -----	5,6
X	US 6 008 092 A (GOULD HERBERT J) 28 December 1999 (1999-12-28) column 3, line 28 - column 6, line 34; figures 1,2 -----	5,6
X	US 5 451 531 A (TOMOMATSU YOSHIFUMI ET AL) 19 September 1995 (1995-09-19) column 10, line 59 - column 11, line 25; figure 5 -----	5,6

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/008516

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6452228	B1	17-09-2002	JP 11330464 A DE 19900171 A1 JP 11251592 A SE 519692 C2 SE 9900008 A US 6165822 A JP 2000200907 A	30-11-1999 08-07-1999 07-09-1999 01-04-2003 06-07-1999 26-12-2000 18-07-2000
US 5866931	A	02-02-1999	US 5410170 A	25-04-1995
US 5753942	A	19-05-1998	KR 206555 B1 DE 19654692 A1 JP 9199727 A	01-07-1999 03-07-1997 31-07-1997
EP 1093168	A	18-04-2001	JP 2001185725 A EP 1093168 A2 US 6459128 B1	06-07-2001 18-04-2001 01-10-2002
US 6271562	B1	07-08-2001	DE 19808348 C1 EP 0939446 A1 JP 3124524 B2 JP 11289091 A TW 434906 B	24-06-1999 01-09-1999 15-01-2001 19-10-1999 16-05-2001
US 6008092	A	28-12-1999	DE 19704996 A1 FR 2745952 A1 GB 2310082 A , B IT MI970242 A1 JP 10027807 A SG 54461 A1 TW 445547 B	30-10-1997 12-09-1997 13-08-1997 07-08-1998 27-01-1998 16-11-1998 11-07-2001
US 5451531	A	19-09-1995	DE 69314368 D1 DE 69314368 T2 EP 0561267 A2 JP 2949001 B2 JP 6013620 A US 5321281 A	13-11-1997 19-03-1998 22-09-1993 13-09-1999 21-01-1994 14-06-1994